A -- Development of Materials and Devices for Naval Weapons and Weapon Platforms

General Information

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Contracting Office Address

Department of the Navy, Office of Naval Research, Naval Research Laboratory, 4555 Overlook Ave. S.W., Washington, DC, 20375

Description

The Naval Research Laboratory (NRL) has a requirement for contractor support for the development of materials, devices, and engineering design for naval weapons and weapon platforms for Navy and Marine Corps applications. Major task areas include 1) the development, testing, and evaluation of advanced materials, 2) development, testing and evaluation of sensors and actuators, and 3) applications engineering and systems development. The effort will also include associated program integration, logistics support, and reporting requirements. The development, testing and evaluation of new materials task will include maintenance of superconducting magnet systems, the study of microstructural evolution during phase transformations, research into the destructive and non destructive testing of a broad range of metallic and non metallic materials, compositional studies and characterizations of materials, research on large sized Sonic Crystal panels, evaluation of fracture mechanics applicability to ceramic and metal alloys, development of techniques for non destructive evaluation, research on materials evaluation and corrosion control for seawater applications, and the study of interactions between materials and new chemicals for marine pollution control device systems. Other tasks involving the development testing and evaluation of advanced materials include testing of corrosion preventative materials, examining the effect of ship seawater system antifouling systems on materials, and analyzing the corrosive-erosive wear mode of mortar barrels. The materials development includes investigation of new as well as existing polymer, ceramic, and metal alloys in bulk, coating, powder, film, fiber, and

composited (including textiles) forms, their synthesis, thermo-mechanical processing and forming to achieve higher levels of strength at low, ambient, and elevated temperatures, fatigue life, creep, stress corrosion, cracking resistance, and toughness. The development, testing, and evaluation of sensors and actuators task will include constructing model sensors and actuators based on optical properties, or other suitable effects, maintenance of an automated testing system using calibrated diffusion tubes, development of signal processing software, development of sensor and sensor systems to evaluate sites for the presence of radioactive waste, collection of raw geophysical data, research on incorporating conductive fibers into textiles, and the application of quantum research and technology for advanced computing. The applications engineering and systems development task includes test plan and execution to gather data on environmental systems, environmental simulation of shipboard operating conditions, performing waste generation surveys, manufacturability studies, failure analysis of environmental systems, development of control systems to operate prototype and shipboard systems, support for the development of advanced waste management systems, support for demonstrating emerging technologies for the concentration (and thermal destruction) of liquid wastes and liquid waste stream technologies, support for the development of advanced technology for solid waste incineration, and support of the installation of plasma arc waste destruction systems. Other task areas involving applications engineering and systems development include supporting installation of environmental equipment on surface ships, design and fabrication of test equipment and other environmental equipment, support for the management of auxiliary parts, the assessment of environmental technologies, conducting copper emission rate tests, support for engineering improvements to prevent shipboard oil spills, support the development of technologies for the control of aquatic nuisance species, as well as software development, training , documentation, and conference support in conjunction with this task. The work will primarily be performed on site at NRL, but will also be performed at contractor facilities. It is anticipated that only one award will result from this procurement. The incumbent contractor is Geo-Centers, Inc. The detailed specifications will be included in the solicitation when issued. The period of performance for this effort will be a base year of twelve months plus four one year option periods. NRL uses Electronic Commerce (EC) to issue Requests for Proposals (RFPs) and amendments to RFPs. Paper copies of the RFP will not be provided. All responsible sources may submit a proposal, which will be considered by the agency. This solicitation and other business opportunities for NRL are available at our website http://heron.nrl.navy.mil/contracts/listrfp.htm
The response date published in this synopsis is the current estimated closing date. The actual closing date for proposals will be stated in the solicitation when issued. See Numbered Note(s) 25 and 26.

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